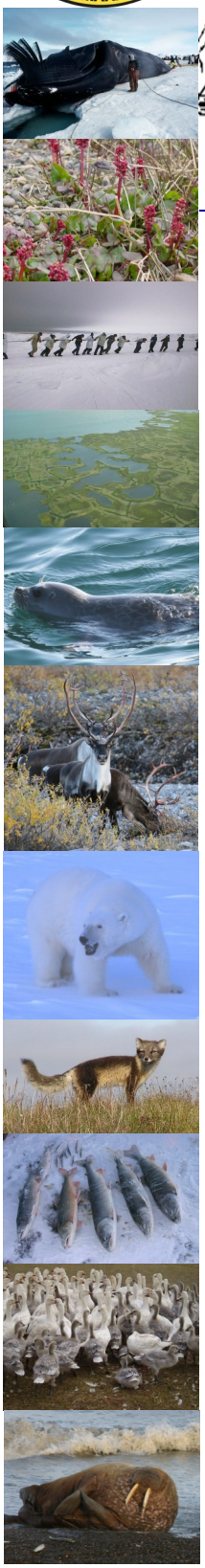
North Slope Borough Department of Wildlife Management

FALL 2016

THE TOWLINE

VOL 8 NO 2



From the Director

I would like to say *quyanaqpak* to Harry Brower, Jr., our outgoing Deputy Director. Harry has been an employee with the Department of Wildlife Management (DWM) since 1991 when he was hired to work as a Subsistence Research Assistant, eventually becoming a Subsistence Research Coordinator. Being hired at the same time, we worked together to document subsistence in the villages on the North Slope.

Harry has been a valuable resource assisting the DWM with our own research, commenting on outside research, and a tireless advocate for subsistence hunters for numerous agencies and co-management boards. Harry, along with other whalers, helped to ensure the success of the Bowhead Whale Satellite Tracking Project, leading to recognition by the U.S. Department of Interior in 2010.

Mike Pederson has been a Subsistence Research Coordinator with the DWM since 2006. Mike has been instrumental in coordinating the NSB Fish and Game Management Committee who advise the DWM on priorities for research. Mike also works as Executive Manager for the Ice Seal Committee, running these meetings that are attended by seal hunters from across the state, researchers from the DWM, State and Federal governments, as well as other research entities. Scientists report to the seal hunters from the North Slope to Bristol Bay and Mike ensures that the hunters continue to have a voice in the studies conducted on their subsistence resource.

Above: John Goodwin, Chair, of Kotzebue, Harry Brower, Jr., Vice Chair, and Mike Pederson, Executive Manager, at the 2015 Ice Seal Committee meeting held in Anchorage. Below: Mayor Harry Brower, Jr., and Deputy Director Mike Pederson

In addition, Mike and Harry have worked with the USFWS, USGS and NMFS to keep our Polar Bear Patrol active and responsive in our communities in order to ensure the safety of residents as well as the safety of these animals.

All of us at DWM would like to extend our best wishes to Harry Brower, Jr., our new Mayor of the North Slope Borough, and to Mike Pederson, our new Deputy Director.

Quyanaq,
Taqulik Hepa

INSIDE THIS ISSUE:

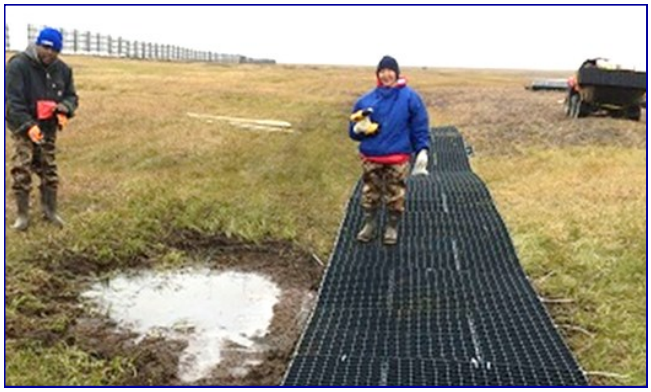
Legos on the Tundra *by Todd Sformo*

You're on a four-wheeler, traveling out of town. The dry tundra gives way to sloppy mud and deep ruts. What do you do? Go left. Go right. Find more stable ground, so you don't get stuck. Next year, you may need to go farther left or farther right to avoid new, larger ruts. Over time, this process widens and erodes more tundra. To minimize this increasing cycle of damage, the NSB-DWM received a Coastal Impact Assistance Program grant entitled "Restoration and Rehabilitation of Coastal Areas through the Installation of Hardened Trail" for $590,000. The funding for this grant came from the U.S. Fish and Wildlife Service and the U.S. Department of the Interior. This allows the NSB DWM to continue to expand the hardened trail, that was begun in 2004 by Rita Acker and Robert Suydam, to reduce impacts to Steller's eider habitat in this area.

Zeb Tookak, Eddie Danner and John Ahkivgak assembling smaller units into a larger unit. Note the drill gun with extension that Eddie holds. Roy Nageak stopped by to observe.

The new grant purchased 163 more pallets of Geoblock, a rigid, durable material that is reminiscent of legos. It has been used by the National Park Service, BLM, USFWS, and ADF&G for trail mitigation projects. In fact, all large scale trail projects in Alaska are utilizing Geoblock, including projects in Hooper Bay, Tununak, and Spruce Island on Kodiak. Geoblock is presently the "industrial standard" for hardened trail. The material arrived in August 2013, and we would like to especially acknowledge the late Lacey Warden for his assistance with shipping.

Over the past three years, Todd Sformo and his crews have been laying this hardened trail on the tundra near Barrow. In total, we have employed 11 individuals at various times during this seasonal project, including (in alphabetical order) John Ahkivgak, John Anashugak, Eddie Danner, Anthony Elavgak, Lottie Elavgak, Michael Foster, Tom Nicolos, Dave Ramey, Lawrence Sage, Lauifi Sitagata, and



Mike Foster and Lottie Elavgak placing the track behind the hospital.

Zeb Tookak, and we want to acknowledge them all for their hard work.

The process of putting together the hardened trail begins at UIC-NARL, where smaller units are assembled into larger units, with a knee-saving, back-saving drill gun. The larger units are then taken to tundra installation sites on 4-wheeler trailers. The trail near the snow fence by the hospital was repaired and extended in 2014-16, and is approximately 0.65 miles long.

The new trail begins near the UIC gravel pit and proceeds toward Maloney Bridge. This trail, not fully completed, will be intermittent as it winds its way toward the bridge. The creator of the bridge, Mr. Roy Maloney Nageak, has been assisting us by scouting out areas and advising on constructing smaller bridges (with wood obtained from NSB Public Works) to cross tussocks and highly eroded areas. Currently, there is approximately one mile of trail laid down. Using the existing materials on hand, the trail will be extended in the future.

The NSB-DWM wishes you safe travels, and we hope that the hardened trail allows you to get to hunting and fishing grounds easier while preserving the *nuna* for future hunters and fishers.

John Anashugak on the Maloney Bridge trail and one of the small wooden bridges suggested by Roy Nageak .

Kid's Page

Iñupiaq Matching

Draw a line from the *Iñupiaq* name to the English name for **Winter Hunting Gear**

Blanket	*Argaak*
Boots	*Atigi*
Bullets	*Kammak*
Camp Stove	*Naqsiaq*
Gasoline	*Nasautaq*
Gloves	*Nunauraq*
Gun/Rifle	*Puuksraak*
Hat	*Qaġrut*
Ice Pick	*Quliksak*
Knife	*Savik*
Map	*Siuġruk*
Neck Gaiter	*Suppun*
Parka	*Tupiq*
Sled	*Tuuq*
Sleeping Bag	*Ulik*
Snow Goggles	*Uniat*
Tent	*Uqsruġruaq*
Winter pants	*Yugluktaak*

Note: *Iñupiaq* name spellings vary between regions.
Reference: Iñupiatun Uqaluit Taniktun Sivuniŋit. 2014. Compiled by Edna Ahgeak MacLean.

Seal Hunting

Did you know that?

- Spotted (*Qasiġiaq)* and ribbon seals (*Qaiġulik)* usually leave the Arctic Ocean and spend the winter in the Bering Sea.
- Ringed (*Natchiq*) and bearded seals (*Ugruk*) can be found in the Arctic year round.
- *Natchiq* are the smallest and most common ice seal and mainly eat arctic cod.
- *Ugruk* are the largest ice seal in Alaska and mainly eat clams and crabs. They have thick skin which is used for making an *umiaq*.
- *Natchiq* hunting on the North Slope mostly occurs from November through March, and *Ugruk* hunting is mostly in June to July.
- Seal meat is low in saturated fats and higher in the healthier, unsaturated fats.
- Seal oil and liver are excellent sources of Vitamin A, which is needed for bones, teeth and a strong immune system. Seal meat also provides iron and phosphorus.

Aaġluaq Traps Fox

Trapping of fox, wolf and wolverine occurs from November to April

Setting the Trap
Naniġirriqsuq

Trapped Fox in Leghold
Naniġiaqtaq

Tube Skinning the Fox
Aaksiruq

Two Girls Wearing Fox
Agniayaak Isiġviqaqtuk Tiġigannianik

Translations by Jana Harcharek

Photo Credit: Qaiyaan and Aaġluaq Harcharek

Check our website for the correct answers! Go to www.north-slope.org/departments/wildlife-management/dwm_newsletters

Do Bowhead Whales Have Teeth?

Do bowhead whales have teeth? We all know that they have baleen instead of teeth, right? Bowhead whales are in the group of baleen whales; belugas are in the other group called toothed whales. Hans Thewissen, of Northeast Ohio Medical University, has been working with the whalers and the DWM to determine how baleen forms in bowheads and how the baleen formation is different from tooth formation.

By looking at bowhead fetuses, Hans has found that early fetuses actually have tooth buds, in the upper and the lower jaw. They have about 30, similar-shaped, tooth buds deep inside each side of the upper jaw (see Fig. 1) [beluga have fewer than 15 per side]. These tooth buds are eventually resorbed and no trace of them is left at birth. Baleen begins forming about 3-4 months before birth. It forms on the surface of the upper jaw only, but in a different place than where the tooth buds were located. Ridges form on the palate (upper inside of mouth), between the upper jaw and the midline. You can see these ridges starting to form in Figure 1 and becoming white, or more gum-like as they thicken, in Figure 2. The baleen begins forming upon these ridges near the end of gestation (the time for fetuses to develop) so that at birth the plates are about 4 inches long (see Figure 3).

Figure 1. Tooth buds seen along edges of the upper jaw in a 16" fetus, at several months gestation.

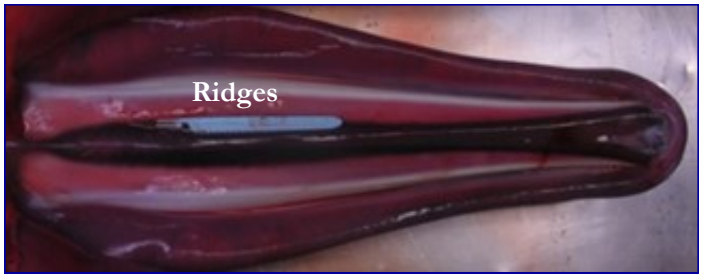


Figure 2. Ridges on the palate (whitish-colored) of a 5'3" fetus, at about 6-7 months gestation.

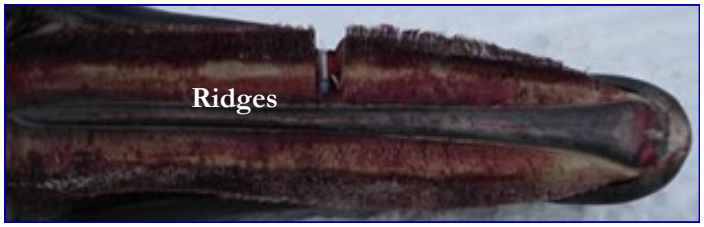
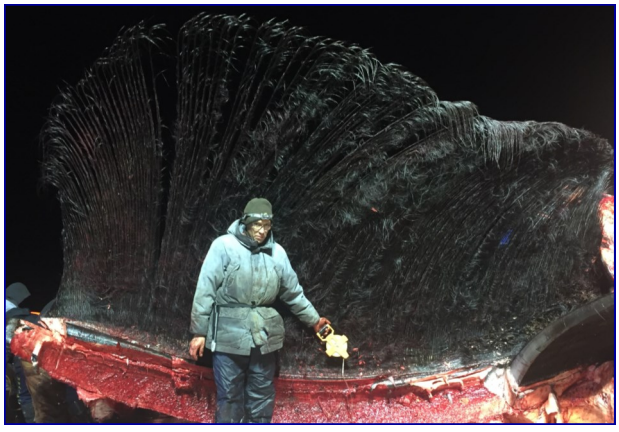


Figure 3. Upper jaw showing palate ridge with baleen plates from a full-term, 14'2" fetus, at about 13-14 months gestation. Baleen is about 4 inches long.

Hans with 4'9" baleen from 30'9" whale in 2013

The baleen plates, about 320 on each side of the upper jaw for a total of about 640, continue to grow throughout the whale's lifetime like claws or fingernails. Just like claws, baleen wears down with age. By the time the bowhead is 30+ feet in length, the baleen is 3-5 feet long; and in a 40+ foot bowhead, the baleen can be 6-8 feet long. The longest baleen in DWM records is 13'5" collected from a bowhead that was about 60-63 feet long. Yankee whaling records indicate bowheads caught with nearly 16' baleen and up to 80 feet in body length!

We use the baleen for many different studies, including aging for up to 15 year old bowheads. Chemicals are stored in the tissue of the baleen and we can analyze them to find out where the bowheads were feeding, or look for indicators of impacts on the whale over time, including stress hormones and pregnancy hormones.



Hans with 6'9" baleen from a 41'11" bowhead in 2015

Why do teeth form in the bowhead fetus and then why do they go away? Bowhead ancestors had teeth, and the bowheads have retained the genes that make teeth. New genes have developed that cause the "switch" from tooth formation to the formation of baleen. Bowhead whales have made the best use of this adaptation as they have the longest baleen of any whale in the world!

U.S.-Russia Polar Bear Commission on Alaska Chukotka Polar Bears

Polar bears, sow with cubs, on the Chukchi Sea. Photo credit: Billy Adams

In 2000, the U.S. and Russia signed a treaty to manage Alaska-Chukotka (Chukchi Sea) polar bears through a bilateral agreement. In mid-November, the Commission met to discuss management, conservation and scientific issues associated with Chukchi Sea polar bears. The North Slope Borough participated in this meeting to help voice the interests and concerns of polar bear hunters and communities in northern and western Alaska.

In past newsletters, we expressed concerns about a quota and other regulations that were set by the Commission. A restrictive hunting quota had been established by the Commission using unreliable and outdated data and the U.S. Fish and Wildlife Service (USFWS) had, until recently, said the boundary for the quota was going to be at Icy Cape. Previously, USFWS said that only the villages to the south (Point Lay, Point Hope, and south) would have a quota. Recently, the USFWS told us the boundary would instead be at Point Barrow. Adding Wainwright and Barrow to the quota would further restrict the number of bears each village could hunt and cause conflicts with the management of polar bears in the Beaufort Sea that occurs through the Inuvialuit-Iñupiat Polar Bear Agreement.

Taqulik Hepa of NSB-DWM, John Hopson, Jr., of Wainwright, and William Hopson of ICAS spoke about our opposition to a quota unless there were reliable data and traditional knowledge showing that there was a need for restrictions on hunting. We also voiced concerns about the shift of the boundary from Icy Cape to Barrow without adequate consultation with our villages and hunters. Fortunately, per the November meetings, regulations will not be enforced at least until 2020. This time will allow for the collection of better information on the population size of Chukchi Sea polar bears, evaluation of where a boundary should be located, and the formation of a new co-management organization for polar bears that will speak for the interests of the hunters and communities that rely on polar bears to help meet nutritional and cultural needs.

If you have any questions or concerns, you may contact the NSB-DWM at 852-0350.

Seal Tagging on the North Slope

In an effort to increase the understanding of ice seal biology and habitat use, the NSB-DWM has been capturing ringed, spotted, and bearded seals and fitting them with satellite tags. The tags are attached to the fur on the seals' backs with epoxy and to a rear flipper with a bracket that is screwed through two hole punches. To ensure that these seals are identifiable if the tags fall off, we also permanently attach a colorful plastic ID tag to the seal's other rear flipper. Note that these seals are not drugged during handling, it is also **legal** to harvest them, and they are as **safe to eat** as any untagged seal. If you do harvest a tagged seal, please contact the NSB-DWM. We would really like to get the tags back because they are expensive and can be reused.

Andy and Joe with a tagged spotted seal. NMFS Permit #15324

We are using the satellite tags to measure seal habitat use and behavior. The tags record seal movements and dives along with information about where they haul out and for how long. We are also working in partnership with the Alaska Department of Fish and Game to collect habitat data in the Beaufort Sea. To do so, we are using a more sophisticated satellite tag that not only collects seal movement and dive data, but also environmental data (water temperature, salinity, and algae content). Altogether, this information will be useful in understanding what areas are important for seal feeding, migration, and reproduction. This information will also help biologists better understand polar bear biology, since ringed seals are very important prey for polar bears. Finally, this information will better inform decision makers who are responsible for conservation, planning for industrial development, and protecting subsistence opportunities for communities along Alaska's coasts.

This past summer was a very productive field season, with a total of 25 seals (12 ringed, 12 spotted, and one bearded seal) tagged. We continue to rely upon and are grateful to work with Billy Adams, Isaac Leavitt, Joe Skin and other hunters whose knowledge and skills are essential to the success of this project. To keep the community informed about this project, we periodically send out maps of seal movements and give presentations at various meetings. For more details on the project go to the NSB-DWM website or email Andy Von Duyke at andrew.vonduyke@north-slope.org.

North Slope Borough
Department of Wildlife Management
P.O. Box 69, Barrow, Alaska 99723
Phone: (907) 852-0350 Fax: (907) 852-0351
www.north-slope.org/departments/wildlife-management
Director: Taqulik Hepa
Deputy Director: Mike Pederson

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CHECK OUT OUR NSB-DWM Website

We thank the NSB Assembly and Mayor Brower for their continued support. ***Quyanaqpak!***

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Kids and Whales

Miranda Rexford-Brown helping DWM with blood collection

One of the best parts of our job at DWM is collecting bowhead samples from harvested whales, and a big highlight for us is working with the kids at the whales. We get many questions from these young scientists and appreciate their eagerness to help. Our hope is that one day some of these young people will be working as biologists with the DWM and they will be able to research the answer to questions that they asked as a child!

#GrowingOurOwnScientists

Kids at Aalaak whale in Barrow looking at the bowhead eyeball with Todd Sformo

Stories of the Whales

Recently, Kathy Ahgeak, Craig George, Edna MacLean and Benjamin Nageak attended a conference in Massachusetts called "Stories of the Whales: New England to the Arctic." As a result, a remarkable connection was made between Massachusetts and Barrow. Linda Coombs, curator at the Wampanoag Indian Museum on Martha's Vineyard, is the grandniece of Wampanoag sailor Joseph Balain. Mr. Balain was onboard the ill-fated ship Navarch when it was fatally trapped in the sea ice off Point Franklin in August 1897. Edna MacLean is the granddaughter of Charles D. Brower who was also on the Navarch on that same voyage.

The ship drifted north and, as it passed Point Barrow, Brower realized the danger they were in; by then Brower had lived in Barrow over 10 years and understood the ice. He knew once the ship passed the Point they would be doomed, adrift with the pack ice. He wrote in his journal "we were in a fix." Drastic measures were needed and both Brower and Balain stepped up to assist. The decision was made to abandon ship and walk across the ice to open water dragging a small canvas *umiaq*, and ferry the crew to shore. Captain Whitesides broke down and began drinking proclaiming "every man for himself," including his wife, returning to the ship.

Top and bottom: Kathy Ahgeak, Linda Coombs, and Edna MacLean

Brower went ahead with a scouting party of 32 men and became separated from the ship with no chance of getting back. They had to keep marching towards open water without food or shelter. Over the next 12 days, half of the crew with Brower died from exposure. The remainder were miraculously saved from a tiny ice floe, when a Siberian Native on a passing whaleship near Cape Halkett noticed the men in the distance, mistaking them for walrus.

Weeks earlier, the Captain being useless and "crying like a baby," Balain took charge, guiding the Captain, his wife and officers to safety, making landfall on Cooper Island, using the *umiaq* after little more than a day's journey.

Brower and Balain emerged heroes and all hands would have been lost without them. Some 120 years later, it was overwhelming to see the excitement when Edna and Linda realized their connection.